

ABSTRACT

A color-separating and -recombining optical system includes a cubic- or square column-like first to fourth polarization beam splitters having polarization-splitting planes intersecting each other and wavelength-selective polarizing converters for rotating the plane of polarization of a specific-color light component by 90 degrees. One of the converters is placed at a light-incident side of the first splitter and another is placed at a light-emitting side of the fourth splitter. The first and fourth splitters are provided at a light-incident and light-emitting sides, respectively, of the optical system. The first and fourth splitters are arranged diagonally opposing each other. The remaining converters are placed between at least two inner facing planes of the first to fourth splitters. At least the remaining converters and three of the first to fourth splitters are joined to form an optical joint component with a gap between the component and the remaining one splitter.